

OTRPC4 L F D F R E L V M L S I G A S A T Z E - - - L N P C T N K Y C D E O S N C H A P T Y P A
TM5

OTRPC4 C R D S E T - - E S A F L M O W K E G I N G M H B D E E M L S S A K V P V M Y U R Q Z J X A H B A R T M G

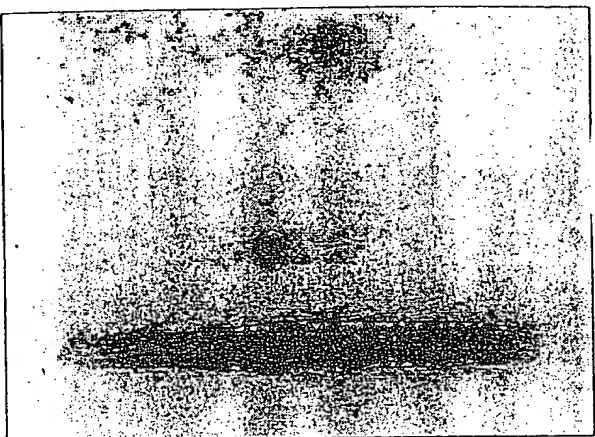
presumed pore region

TM6

OTPC4 MEEFV G O WSH K EASND H ENKKEHO WA T TEHED I ERSG P V F L PMAEERSG E N V T MS KS SCACTPRR R

heart
brain
spleen
lung
liver
skeletal muscle
kidney
testicle

7.5 —
4.4 —
2.4 —
1.35 —



M A D P G D G P R A P C A O R F G E V A E P P G
OTAPCLORF

Nine:

Aat II

ATGAGAGTGTACTCTGTGGGAGGCTTCCCTCTCTCTCTGCGCAATCTGTTGAAGGGAGGAAGGCTCTTCTCTTCCCGGATGATGCTAGCCCTCGTGGCCCTGGCGATGAAGTCCAACTG
TACTTCCACCATGAGAGCACCTCCCGAAGGGGAGAGAGGGACGGTTAGACAATCTCCCTCTCTCGAGGAGAGAGAAAGGGCCACTTACGATTCGGGGGACGACCGGAGCCCTACCTTCAGGTTGGAC
+ 280

5-RACE Fragment

DESSG T S G G E A F P L S S L A N L F E G F E G S S S L S P V D A S R P A G P G D G R P N L

OTRPTAORF

Bsp120 !

Apa

CGATGAGAGTTCAGGGCGCTTCCGCAAGGGGTTCACCAACCCATTGACCTGTTGGAGTCACCCGGTACGAGTCTCTAGTAGTCCCTGGGCCAAGAAAGGCCCATGATTCCTTGTTCGACTACGGCACTTACCG
420
GCATACCTCAAGGTCGCGGAAGGCGTTCCCCCAAGGGTTGGGTAACGTGACAACTCAGGTGGCCATGCTCAGAGATCATCAGGGACCCGGTCTTTTGGCGGTACTAAGGAACAAGCTGATGCCGTGATGGC

5-RACE Fragment
R M K F O G A F R K G V P N P I D L L E S T R Y F S S V V P G P K K A P M D S L F D Y G T Y R
OTRAC-OFF

EST

ЕДИН

Xma I

Sma

TCACCACCCAGTGCACACAGAGATGGAGGAGGAAGCTGCTGGAGAGCAGCCACACAGAGCCCCAAAGCTCTGCACCCAGCCACCCCCCATCTCAAGTCTTCAATCGGCCATCTCTTGACATTGTGTCGGG
AGTGGTGGGCTACCTGTTGTTCTCTACTCTCTTTCCAGCACCTCTTCGTCGGTGTCTCGGGTTTCAGAGCACTGGGGTGGTGGGGGTAGGAATTTCAGAAAGTTACCGGGTAGGAGAACTGTATACACAGAGGCC

murine seq. transitions

POPPILKVFNRPIILFDIVSR
K^AORPC₄ORF^A

EST

INTRODUCTION

INTRON 5956bphs

Fig. 2a (I).

GCTCCACTGGGACCTAGATGACTGCTCTCTCTTGTGACCCACAGAAGCGCTGACTGATGAGAGTTCGGGAGCCGCTCAGCGGGAAGACTTGCTGCCCAAGCGCTGTAACCTAAGCAACGGGCCAAC
700
CGAGGTGACGCGCTGATCTACTGACGAGAGAACAACACTGGGTGTTCTTCCGGACTGACTACTCTCAAGGCCCTCGGAGGTGCCCTTCTTGAGCGGAGCGGTTCCGGAGCACTTGATTGTTGCCCGGTTG

G S T A D L D G L L S F L L T H K K R L T D ^{EST} ^{INTRON 61,48bp/15} E R E P S T G K T C L P K A L L N L S N G R N

C1101

GACACCATCCCGGTGTTGCTGACATTGCGAGCGCACCAGCAACATGCGTGAATTCATCAACTCGCCCTTCAGAGACATCTACTACCGAGCGCAGACATCCCTGCACATTCGCATCGAACGGCGCTGCAAGCACTAGCT
840
CTGTGGTAGGGCCACAAGCACTGTACGCGCTCGCGGTGGCGCTTGTAAGCACTTAAGTGTGAGCGGGAAGTCTGTAGATGATGGCTCCGCTGTAGGAGCTGTACGCTAGCTTGGCGGACGTTGCTGATGA

D T I P V L L D I A E R T G N H R E F I N S ^{EST} ^{INTRON 223bp/15} O I Y Y R G O T S L H I A I E R R C K H Y Y

GGAAGCTGCTGTTGGCCCAAGGAGCGGAGCTGACAGCCGCCAGGCCCGCTTCTCCAGCCCAAGATGAGGAGGCTACTTCTACTTTGGGAGCTGCCCTTGTCCCTGAGCAGCTTGCACCAACCAAGCCGACATCG
980
CTTCGACGACCAACCGGCTCCCTGGCTGCAAGCTGCGGGTCCGGGCGCGGCAAGAGGTGCGGTCTTACTCTCCGATGAAGAACCCCTCGACGGGAAACAGGACCGTGGAGCGTGGTTCGGCGTGTAGC

E L L V A O G A D V H A O A R G R F F O P K ^{EST} ^{INTRON 1704bp/15} G Y F Y F G E L P L S L A A C T N Q P H I

Ankyrin domain

Xho I

TCACTACCTGACAGAAACCTTCACAGAAGAGCTGACATGAGCGGACAGACTCGAGGGGGAACAGGCTGTCACAGCGCTGGTGGCCATGCGGACACAACCCGAGAGAACCAAGTTGTACCAAGATGTAGCAG
1120
AGTTGATGAGACTGTCTCTTGGGAGTGTCTTTGAGCTGACTCCGCTGTCTGAGCTCCCGCTTGTGACGAGAGTGGGAGCCCGGTAGCGGCTGTGTGGGCTCTCTTGTGTTCAACAGTGTGTCTACATGCTG

V N Y L T E N P H K K A D M R R O D S R G N ^{EST} ^{INTRON 40bp/15} H A L V A I A D N T R E N T K F V T K M Y D

Ankyrin domain

Fig. 2a (II)

L L L L K C S R L F P O S N L E T V L N N D ^{off} P L H M A A K T G K I G V F O H I I R R E V
 offpct.off

— Ankrytn —
— Ankrytn domain —

Übergang Maus seq.

INTRON 18086715

Boys:

Bsngl

GACAGATAGGACACCCGGCATCTGCTCGCAAGTTCAGGACTGGGCGTATGGGCGTGTATCTTCTCTACGACCTCTCTCCCTGACACATGGCGGGAAGAGGTGCCGTGGAGATCCCTGGTGTACACA
 1400
 CTGCTACTCTCTGTGGCGGTAGACAGAGCGTTCAAGTTCCTGACCCGGATACCCGACACATAGAGAGAGATGCTGGAGAGAGGACCTGTGACGCCCTCTCCACAGGACGACCTTAGACCAACATGTTGT

EST
T O E O T R H L S R K F K O W A Y G P V Y S
O r p C o h n e Y D L S S L D T C G G E E V S V L E I L L V Y N

— Ankyrin domain —

CGAAGATCGAGAACCGCCATGAGATGCTGGCTGTAGAGCCCATTAACGACTGTGAGAGACAAGTGGCCGAAGTTTGGGGCTGTGTCCTTACATTAACGTGGTCTCTTATCTGTGTGCCATGGTCACTTCCACCTC
1540
CGTTCTAGCTCTTGGCGTACTCTACGACCGACATCTGGGTAATTGCTTGACAACTCTCTGTTACCGCAATTCAAACCCCGACACAGGAAGATGTAAGTTGCCACCGAGGATAGACACACCGGTACCCAGTAGAAGTGGAG

EST SK I E N R H E M L A V E P I N E L L R O K W R K F G A V S F Y I N V V S Y L C A M V I F T L
 O T P C A O R F

transmembranal region

ACCGCTACTATCAGCCACGTGAGGACAGCCACCTAACCTTACCGAGACACAGTGGACTTACTGAGGCTGGCTGGCAGATCATCAGCTCTTCACAGAGTCTCTGTTTCTTACCAATATCAAGACTTGTTCAC
TGGCGGATGATAGTCGGTGACCTCCCGTGGGTGGGATGGGAATGGCTGGTGTACCTGATGAGATCCGACCGACCGCTTCAGTAGTGGAGAAAGTCTCTCAGSACAAGAAATGTCATAGTTCTGACAAAGTG
1690

T A Y Y O P L E G T P P Y P Y R T T V D Y L R A G E V I T L F T G V L F F F T S I K O L F T

- transmembranal
- transmembranal

INTRON 307bp/HS

transmembrane region

INTRON-30bpHS

Fig. 2a (III)

BSAM !



CCCTGGTCTGGGCTGGATGTAATGGCTGTACTTTCACGGCGGGTGAAGCTGACGGGACCTACAGCATATGATTCAGAGATCCTCTCAAGACCTCTTCGGCTTCGTGTTGTAACCTGCTCTCATGATCGGC
GGAGCCAGACCCGACCTACTTACCGGACATGAAGTGGCGGCCCACTTCGACTGCCCTGGATGTGTAGTACTAAGTCTCTAGGAGAAGTTCTGGAGAGGCGGAAGACGACATGGAACGAGAAGTACTAGCCG

1960

A L V L G W H N A L Y F T R G L K L T G T Y *StrpC4^{His}* I O K I L L F K D L F R F L L V Y L L F M I G
 ————— transmembrane —————
 ————— transmembrane region —————
 ————— transmembrane —————
 ————— transmembrane region —————
 ————— transmembrane —————
 ————— transmembrane region —————

TAATGCTTACACCTTGGTTCACCTTCTGAAATCGGTGACACCAATGAGGCTGTGTGACGAGGACAGAGCAACTGCACGGTGGCCACGATATCTTGGTGGCGGACAGACGAGACTTAAAGCCCTTCTCTGGACCTCTT
ATACGAGTGGGACCAAGTGGGAGCACTTAGGCACGTTGGTTGACTTCCAGACACTGCTCTGGTCTCGTTGACGTGCCCCAGGGGTGCATAGGACGACGCGGCGCTGTGGCTCTGGAAGTCCCGGAAGGAGGACCTGGAGAA

Y A S A L V T L L N P C T N M K V C D E D O ^{EST} _{OTRPO} T V P T Y P A C R D S E T F S A F L L D L F

transmembranal  transmembranal region 

— INTRON + 1550 + 181 bp + 8 —

C A G C T C A C C A T C G G C A T G G A G A C C T T G A G A T G C T G A G C A G C G C C A G T A C C C G T G G T C T T C A T C C T C C T G T G T C A C C T A C A T C A T C C T C A C C T T C G T G C T C T G T T G A A C A T G C T T A T G C C C T C A T G G G T G A A
 G T T C G A G T G T A G C C G T A C C C T T G A C A C T T C A G A C T T C G T C G G T T C A T G G G G C A C A G A A G T A G S A G G A G A C C A G C A G T G A T G T A G G A G T G A A G C A G A G G A C A C T T G T A C G A A T A G C G G A A T A C C C A C T C T

K L T I G M G D L E M L S S A K Y P V V F V T Y I I L T F V L L L N M L I A L M G E

EST
 OTFPC4-ORF
 transmembranal
 transmembranal region

224

Fig. 2a (IV)

T	V	G	O	V	S	K	E	S	K	H	I	W	K	L	O	W	A	T	T	I	L	D	E	R	S	F	P	V	F	L	R	K	A	F	R	S	G	E	M	V	T	V	G	K	S
																					OTTRC4orf																								
																					EST																								

Csp I
 TCAGATGGCACTCCGGACCCGAGGTGGTGTCTTCAGGGTGGAGAGAGTGAATCTCAGCTGGAACCGAACTTGGGATCATTTAACGAGAGCCCTGGCAAGAGTGAATCTACCACTACTATAGCTTCTCCACACCGT
 2520
 AGCTTACCGTGGAGCCCTGGGCGTCCACACGAGAGTCCCACTGGCTCCACTTGAACGAGTGAAGTGGTGGTCTTGAACCCGTAAGTAATTGGCTCTGGGACCGCTTCACTTTAGATGGTCATGATACCGAABAGGCTGGCA
 Sca I

EST
S O G T P D R R W C F R V D E V N W S H W N
OFFICE
G I L N E O P G K S E I Y O Y Y G F S H T V

Kas I
 Nar I
 Ehe I
 Bbe I

Avr II

GGGGGCCTTCGTAGGGAATCGTTGGTCTCGGTGGTCCCGGTAGTGAGCTGAACAAGAACTCAAGCGCAGATGAAGTGGTGGTACCCCTGGATTAACCTAGGGAATCCCAACTGTGACGGCCACGAGGCTACG
 2660

CCCCCGGGAAGACATTCCTTAGCAACCAAGAGACCACACGGGGCGCATCACCCTGACTGTGTTCTGAGTTCCGCTTAACCTACCAACCAATGGGAGCCTATTGGAATCCCTTGGGGTTGACACTGCCGGTGGTTCGTCCTCGATGC

EST
G R L R R D R W S S V V P R V V E L N K N S S A D E V V V P L D N L G N P N C O G H O O G Y
ONPcAdOP

CTCCAAAGTGAAGACGACGATGCCCCACTGTAGGGGCGGTGCAGAGCTCCGACAGATAGTCAGGCTTGAGCTTCGCTCCCACTACATTTAGGCAATTGTCCGGTGCTTTCCACACCCGATGGGACCTTGAGG
2800
GAGGATCACTCTCTGCTGTCTACGGGTGACATCCCGGACAGGTCTCGAGCGTGTCATCAGGTCGAAACCGGAAGCAGGGTGAATGTAATCCGTAAACAGGCCACAGAAAGGTGTGGCGTATCCCTGGACCTCC

A P K W R OTR P C D O R F A P L .

Page 5

TEST

EST

ES

3280

EST

Fig. 2a (VI)

Fig. 2b

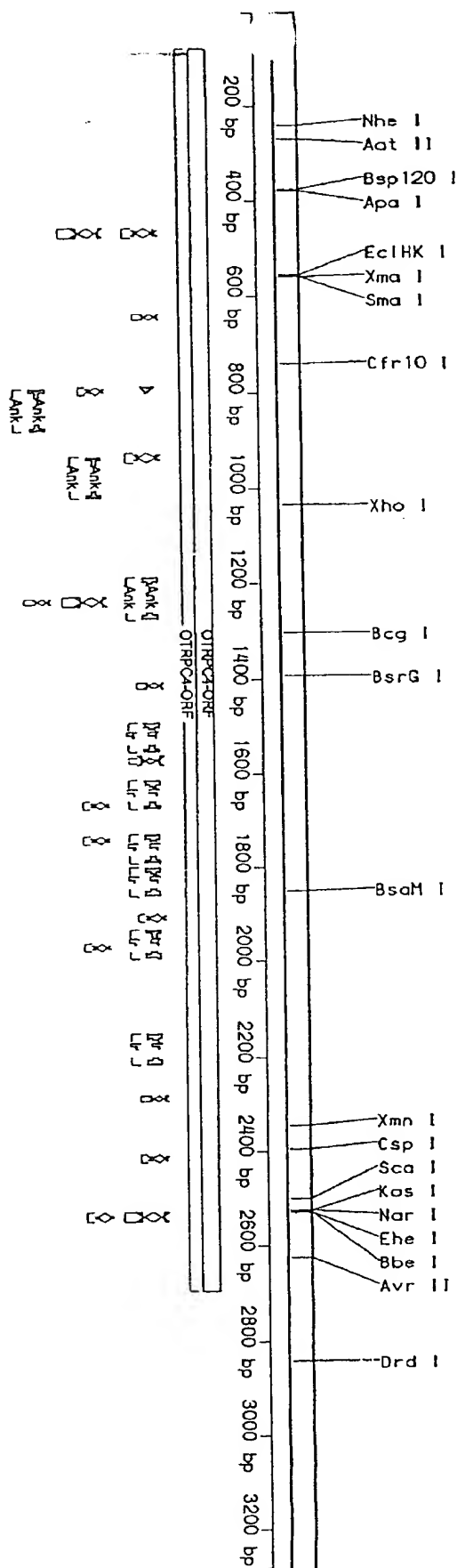


Fig. 3a

Mouse kidney, sagittal section



Mouse kidney, sagittal section

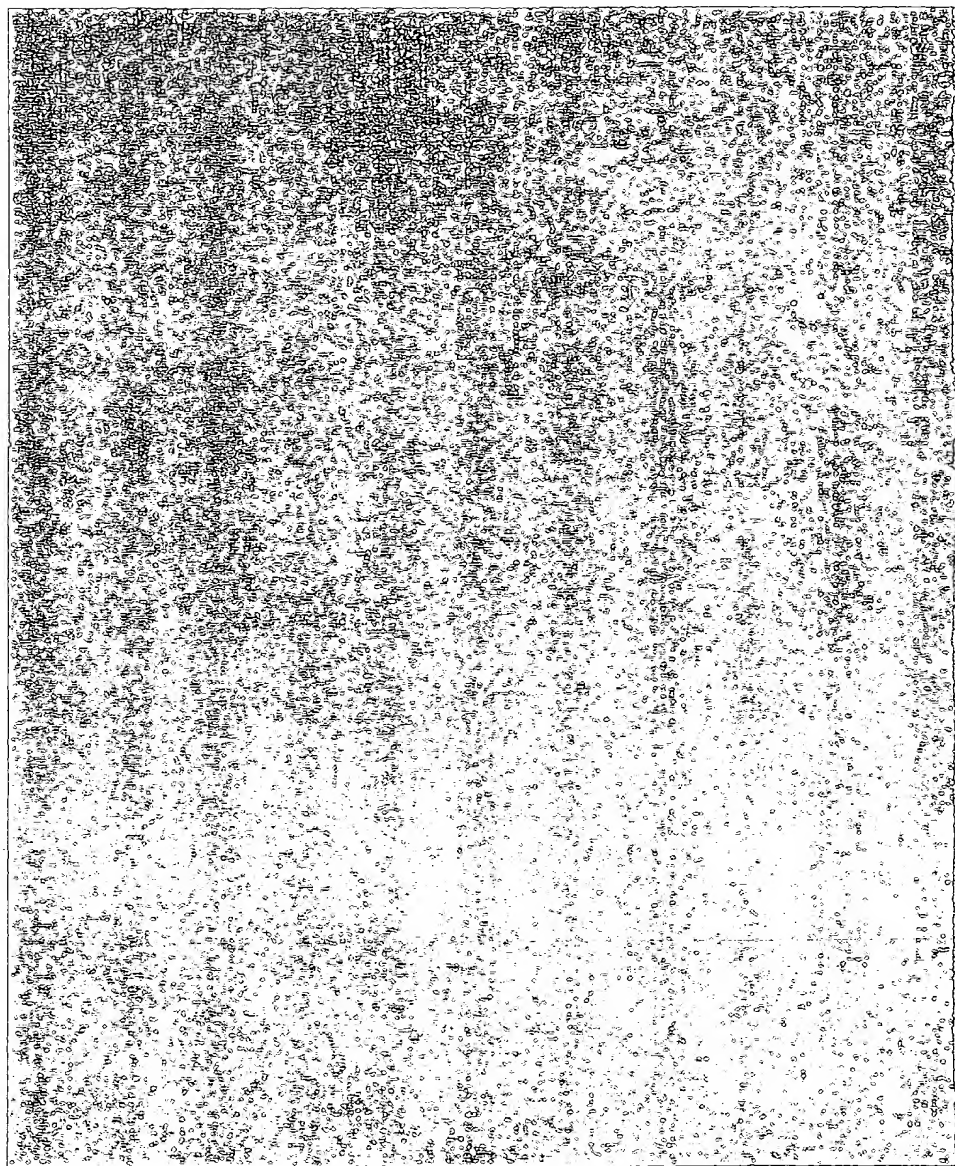


Fig. 3b

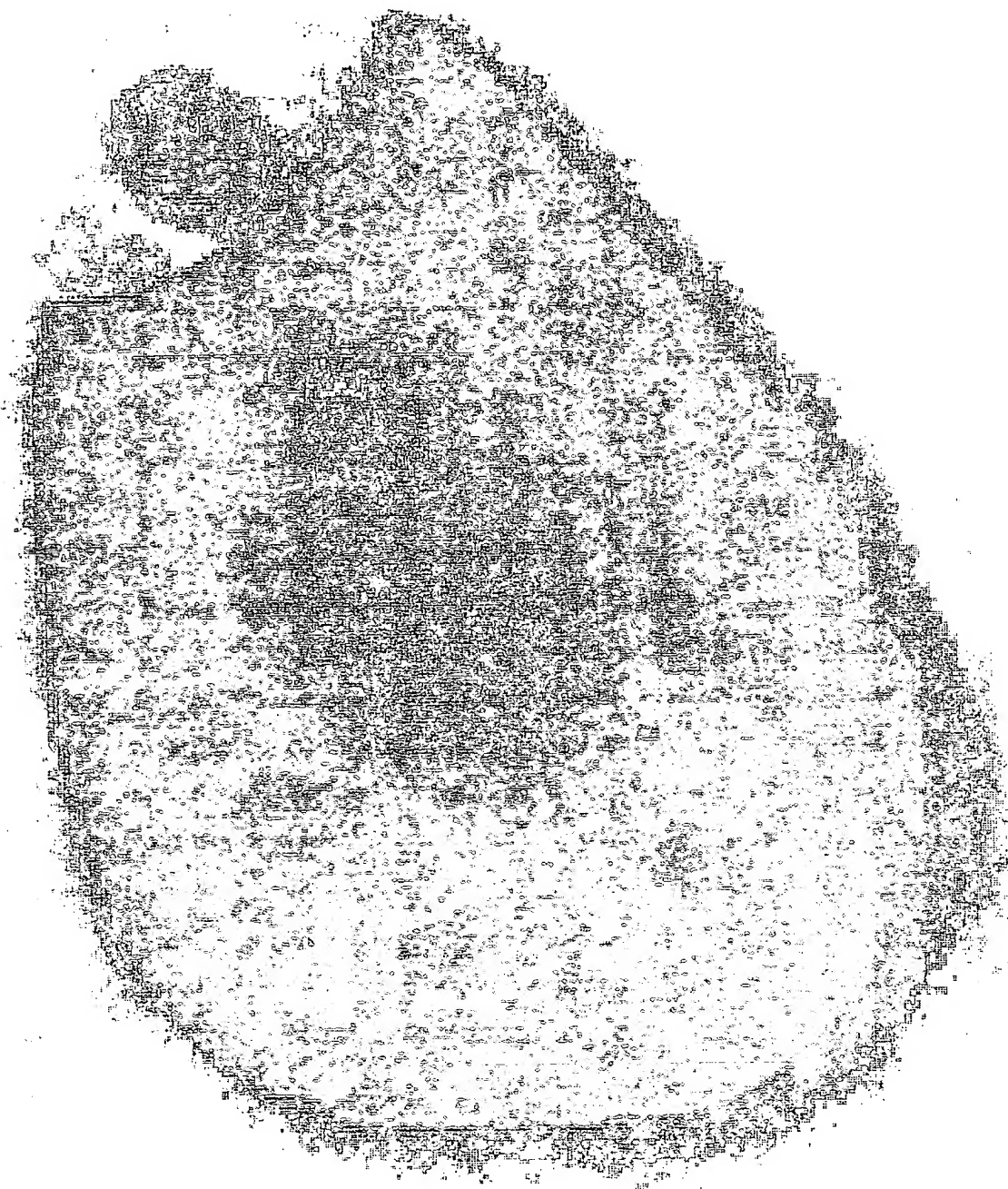
Mouse kidney, sagittal section



Fig. 3c

Fig. 3d

Mouse kidney, horizontal section



Mouse brain, sagittal section



Fig. 3e

Mouse brain, coronary section

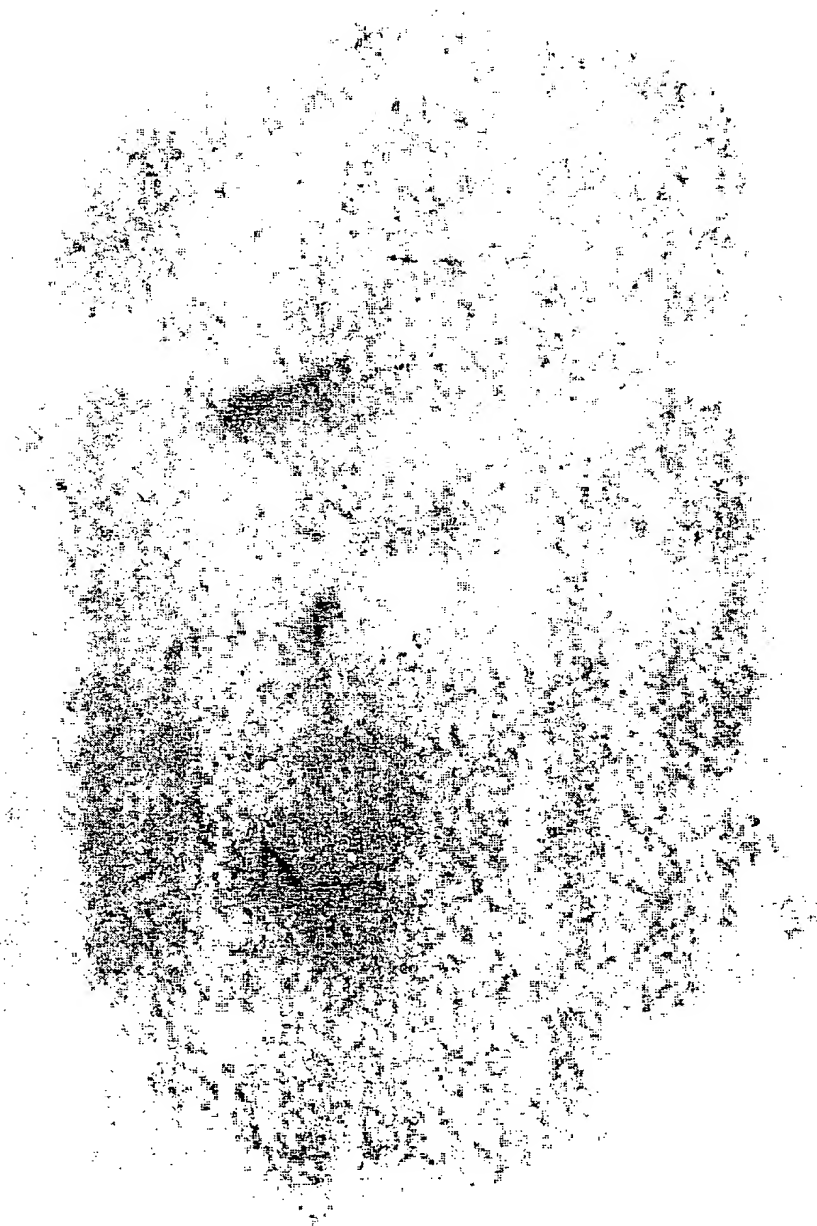


Fig. 3f

Mouse brain, horizontal section



Fig. 3g

Mouse, choroid plexus



Fig. 3b

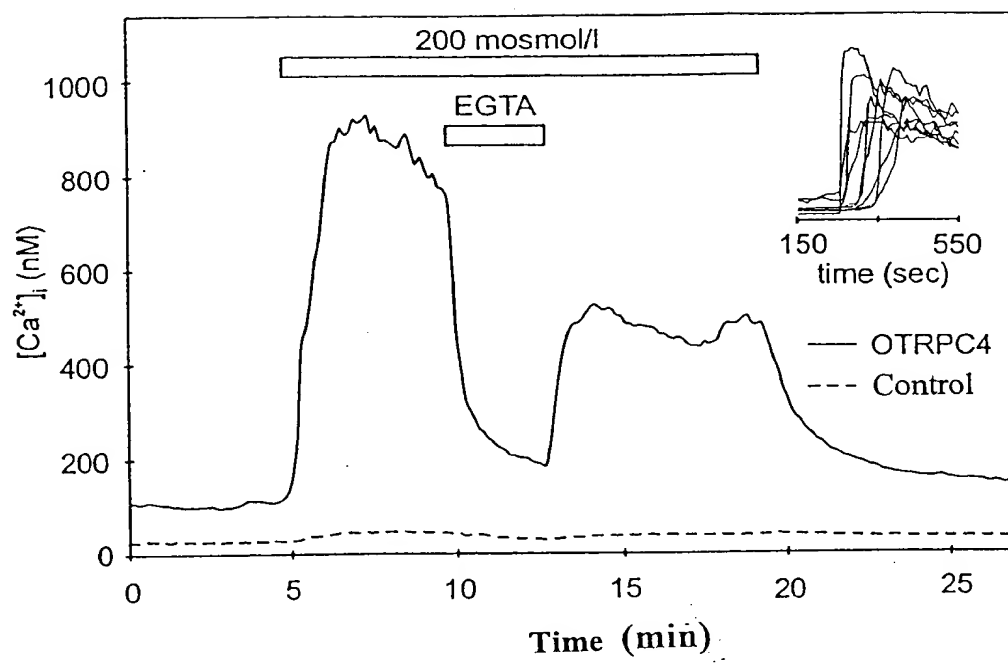


Fig. 4

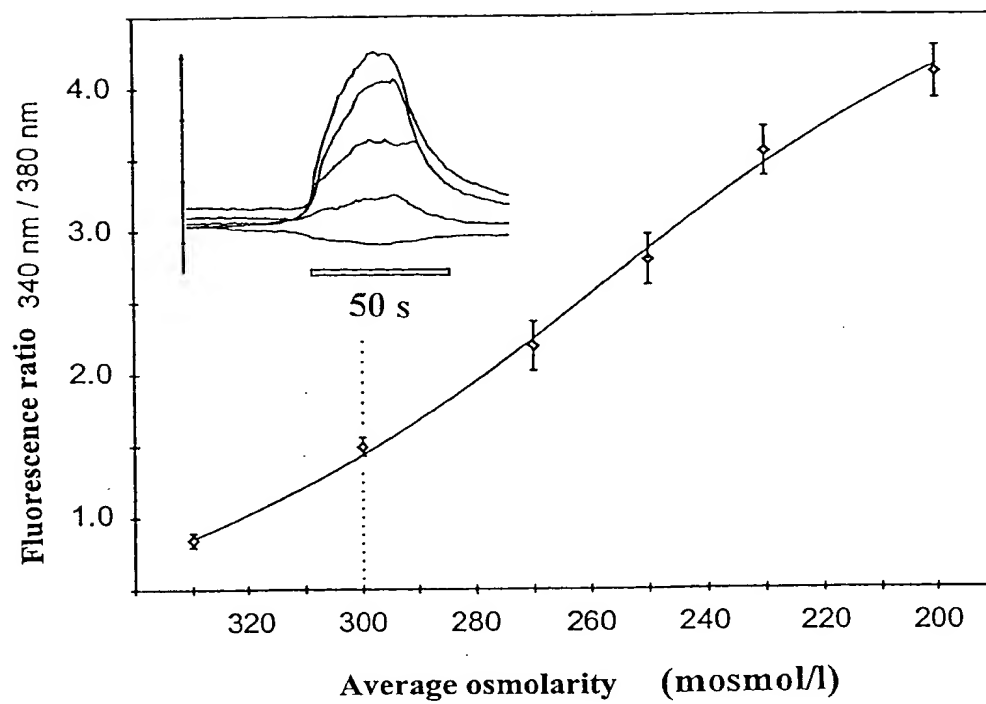


Fig. 5

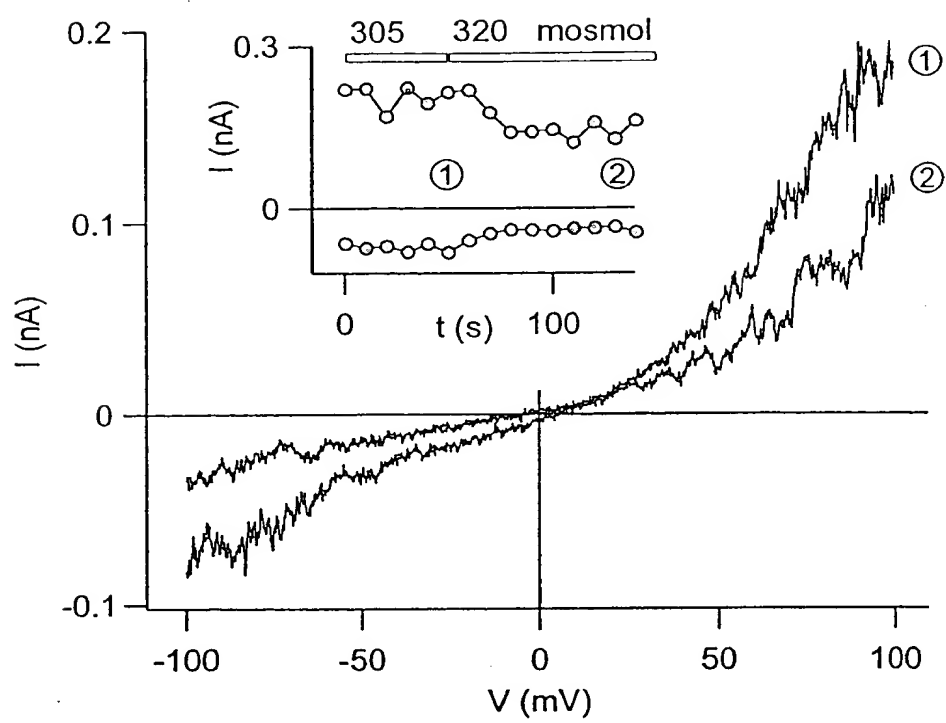


Fig. 6

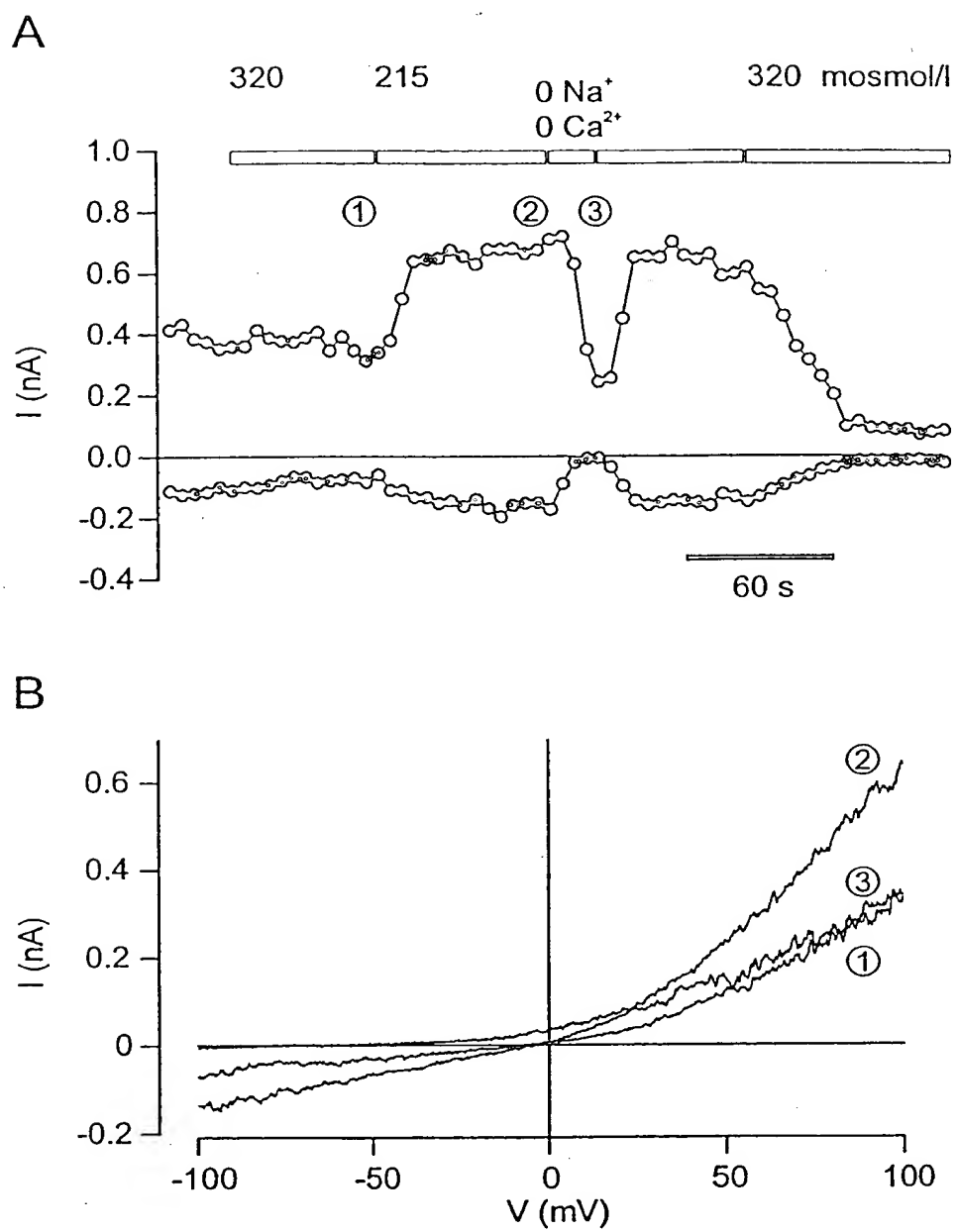


Fig. 7